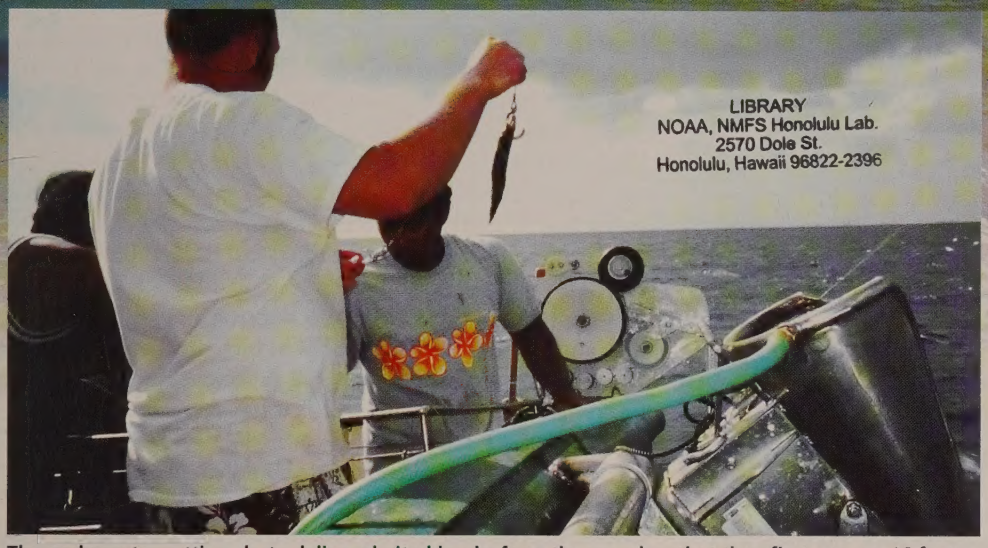
Pacific Islands Fishery News

Newsletter of the Western Pacific Fishery Management Council

Spring 2002



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The underwater setting chute delivers baited hooks from the vessel so that they first emerge 16 feet underwater, out of sight and reach of diving albatross. © E. Gillman

Bird Bycatch Reduced to Zero in Hawaii Test of New Gear

When Nigel Brothers of the Tasmania Parks and Wildlife Service, Australia, arrived in Hawaii this February to oversee an experiment testing a device designed to reduce the unwanted catch of seabirds by longline vessels, Capt. Jerry Ray knew just where to take him. He headed the 85-foot *Katy Mary* toward the Northwestern Hawaiian Islands (NWHI).

Only about 15 percent of Hawaii's tuna longliners fish this area, where by law they must stay at least 50 nautical miles offshore from the islands, which are breeding grounds for Laysan and black-footed albatross and other protected species. In the offshore waters Ray found the density of foraging seabirds needed to test the underwater setting chute, a 29-foot pipe that sends baited hooks 16 feet underwater before releasing them. The seabird-deterrent device was created in New Zealand in the mid-1990s and modified in Australia, where it is also currently being tested.

The Hawaii test results were astounding. Of 6,491 hooks set without the chute, seabirds contacted 419 hooks (i.e., 6.5 percent of the hooks), and 24 seabirds were killed. Of 6,168 hooks set with the chute, seabirds contacted 10 hooks (i.e., 0.2 percent of the hooks) and none were hooked or killed.

"After years of testing different methods to reduce the catch of seabirds, it was thrilling to see one that was so effective," Ray said. He believes the chute may be even

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Turtle Workshop Limelights Council's Liaison Role

Fifty-three representatives from 18 Pacific nations participated in the Western Pacific Sea Turtle Cooperative Research and Management Workshop, Feb. 5-8, 2002, in Honolulu. The participants included a unique mix of sea turtle biologists, conservation specialists and fishery scientists, primarily from the western and central Pacific, but also from Latin America. The workshop was convened by the Western Pacific Fishery Management Council to provide a forum to gather and exchange information, promote collaboration and build consensus for a regional approach for conservation and recov-

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Kitty Simonds, executive director of the Western Pacific Fishery Management Council, which organized the Western Pacific Turtle Workshop, poses with Craig Moritz, workshop chair and professor of integrative biology at the University of California, Berkeley.

Bird Bycatch *continued from page 1*

more effective if deployed on the side of the vessel rather than on the stern, where turbulence from the engine can send branch lines toward the surface.

Seabird deterrents previously tested in Hawaii include towed streamer lines, blue-dyed bait and weighted branch lines in experiments conducted by the National Marine Fisheries Service (NMFS) in 1997 and 1999. The streamer lines reduced albatross contacts with fishing gear by 70 percent, and blue-dyed bait and weighted branch lines each reduced contacts by about 90 percent for black-footed and Laysan albatross, according to a 2001 report by Christofer Boggs, chief of fish biology at NMFS Honolulu Laboratory.

The underwater setting chute stored on deck. The chute is 27 feet long. When deployed 16 feet is underwater. © E. Gillman

Commercial testing of seabird deterrents on regular fishing trips began in 1998 by Garcia and Associates, under contract to the Western Pacific Fishery Management Council. Deterrents tested included strategic discarding of offal (i.e., unwanted fish parts and spent bait), night setting, blue-dyed bait and towed streamer lines. Results for black-footed albatross ranged from 83 percent reduction for strategic offal discards to 95 percent reduction for blue-dyed bait. For Laysan albatross, reductions ranged from 40 percent for night setting to 91 percent for strategic offal discards.

In 1999, the Council proposed that longliners be required to use their choice of two of the five seabird deterrents that had been tested. Longliners could also choose to use line-setting machines, which deploy longlines so that they sink rapidly and deep to target tuna, as opposed to simply using the forward motion of the vessel to pay out line which remains near the surface and fishes shallow to catch swordfish.

In March 2001, NMFS enacted measures directing Hawaii longliners to use strategic offal discards, thawed blue-dyed bait, a line setting machine and weighted branch lines when fishing above 23°N. The NMFS decision was based on a US Fish and Wildlife Service (USFWS) biological opinion for the endangered short-tailed albatross, a species that is rarely seen in Hawaii fishing grounds and that has no record of being caught by the Hawaii fishery.

The underwater setting chute could supplant these other measures for the Hawaii fishery, suggests Kathy Cousins, the Council's protected species coordinator and an on-shore technical advisor for the Hawaii test.

Partners in the project included Albi Save (the Australian company that manufactures the chute), the Council, the Hawaii Longline Association, the National Audubon Society's Living Oceans Program, NMFS, Ray and the *Katy Mary* crew, and USFWS.

Hawaii Marine Recreational Fishing Survey Update

The national Marine Recreational Fishery Statistical Survey (MRFSS) to assess recreational fishing estimates has returned to the state of Hawaii after a 20-year lapse, thanks to the combined efforts of the Western Pacific Fishery Management Council's Recreational Fisheries Data Task Force, the Hawaii Division of Aquatic Resources (HDAR), the MRFSS staff and the National Marine Fisheries Service. Project Manager for the complementary Hawaii Marine Recreational Fishing Survey (HMRFS) is Mike Nelson.

At the Council meeting in March, Nelson provided an update on the HMRFS project, which currently is collecting data from operators of private and charter boats based on the islands of Hawaii, Oahu and Maui. The project will add shoreline fishers this year, and surveys for Kauai, Molokai and Lanai may take place in 2003, depending on funding availability.

The project consists of three surveys, Nelson reported. They include a random digit dial household telephone survey for private boats and shore effort; 2) a telephone survey for charter boat effort; and 3) an intercept survey for catch data and adjustments for effort estimates.

A summary of private and charter boat operator interview results to date for Oahu (November 2001 through February 2002) was presented by Nelson and revealed the type of information that is being generated. For example, the predominant fish aggregation devices used by Oahu fishers during these months were R, S, T and V buoys; the predominant gear type was overwhelmingly rod and reel followed by spear; the most commonly captured species included aku, mahimahi, moana, taape, ono and striped marlin; and the typical species released, thrown back or used for bait were aku, octopus and mahimahi.

Preliminary data indicate that the typical species released, thrown back or used for bait by the Hawaii recreational fishery are aku, octopus and mahimahi.—Ray Boland photo

Included in the HMRFS workload will be the development of an updated charter boat vessel directory for the state of Hawaii.

In 2001, the number of longline vessels based in American Samoa rose to 80. Hoping to reduce the risk of "boom and bust" development by longline vessels with no long-term investment in the local community, the Council agreed to move forward on the establishment of a limited entry program for the fishery. —WPacFIN and American Samoa Department of Marine and Wildlife Resources photo

112th Council Meeting Highlights

The Western Pacific Fishery Management Council—meeting March 18-21, 2002, in Honolulu—took initial action to recommend the suspension of bottomfish minimum annual landing requirements for Northwestern Hawaiian Islands (NWHI) limited entry bottomfish permits. The requirements were initially adopted to encourage active participation in the fishery and to ensure fair allocation of permits. Today, only 17 permits are issued for the fishing grounds, which stretch 1,200 miles north of the main Hawaiian Islands and contain healthy stocks of red, pink and grey snapper.

A key factor in the Council's decision was the uncertain future of the fishery, following an announcement by NOAA Fisheries that the NWHI Coral Reef Ecosystem Reserve established by President Clinton's executive orders, would be the prevailing management system for the area until a NWHI National Marine Sanctuary is established.

Bill Hogarth, head of NOAA Fisheries, who was in Honolulu to make the announcement, told the Council that the Reserve provisions are not cast in stone.

"You have to look at the spirit of the executive orders but also the Sanctuary Act and what the Sanctuary is trying to accomplish." Hogarth said. "It does allow for changes."

NOAA Assistant Administrator for Fisheries Bill Hogarth said that provisions governing the NWHI are not set in stone as the Sanctuary process allows for change. He also said the administration would work with Fishery Management Councils to allow sustainable coral fisheries to continue.

His remarks did little to console NWHI bottomfish fishermen.

"There are still so many unanswered questions," noted Timm Timoney, who has fished the NWHI for 20 years. "We don't know if we will be able to fish in the area at all. ... We hope the Council's NWHI fishery management plans (FMPs) will be included in the Sanctuary program."

Among other issues taken up by the Council were the following:

American Samoa longline fishery. In 2001, the number of vessels based in American Samoa rose to 80, increasing the number of hooks set from 0.5 million at the start of the year to 2.5 million at the end of year. Hoping to reduce the risk of "boom and bust" development by longline vessels with no long-term investment in the local community, the Council agreed to move forward on an amendment to the Pelagics FMP that would establish a limited entry program for the American Samoa longline fishery. The Council also voted to establish a new control date of March 21, 2002, for entry of all pelagic longline vessels fishing in the US exclusive economic zone surrounding the islands of American Samoa and to request that NOAA conduct a thorough legal review of the US responsibility to the indigenous people of American Samoa with respect to marine fisheries, with particular consideration give to the Deeds of Cession and the annexation of American Samoa by the United States.

Coral Fisheries. The Council voiced its opposition to a total ban on the harvest of all forms of coral in the central and western Pacific. Advocating for science-based fisheries management, the Council supported the continuation of the precious coral fishery under the Precious Coral FMP and the allowance for limited takes of other corals for traditional and cultural purposes, aquaculture seed stock and bioprospecting for medical research, as allowed in the Coral Reef Ecosystem FMP. It was noted that the black coral fishery has been sustainably managed in Hawaii for more than 40 years and is a $42 million industry.

The Council's statements came in response to a recent announcement by NOAA Assistant Administrator for Fisheries Bill Hogarth regarding a move toward a national policy that would ban the harvesting of all forms of coral.

Cross Seamount Fishery. The Council recommended that its staff and NMFS further study the Hawaii offshore fishery to determine how best to improve reporting requirements and improve understanding of the socioeconomic characteristics of this fishery, with the ultimate goal of determining whether management regulations are required and, if required, what forms these regulations might take.

ery of depleted Pacific sea turtle populations.

"I think this is a world first, bringing together turtle biologists of this scope to work with people who manage fisheries and bycatch," noted Craig Moritz the workshop chair and professor of integrative biology at the University of California, Berkeley.

"That need for a liaison will obviously continue," he added. "I think what has emerged, as we've discussed the status of current initiatives in the region, is that the Council can do more than just liaise with these groups. It can really promote exchange of information among these group, as well as between them and to the Council."

Top (from left): Agus Dermawan, Conservation and Marine National Parks, Indonesia; George Petro, Vanuatu Sea Turtle Conservation Program, Wan Smolbag Theater; Bottom (from left): Miriam Philip, Office of Environment and Conservation, Papua New Guinea (PNG); Peter Dutton, National Marine Fisheries Service, US; Karol Kisokau, Village Development Trust, PNG.

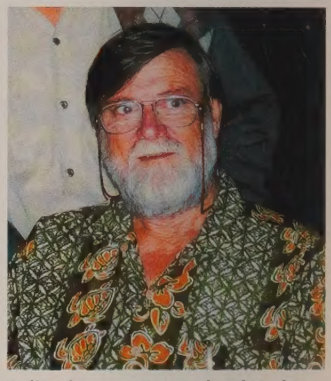
Moritz guided the workshop participants through an extensive agenda that included current population trends, new information, information gaps and primary mortality sources for sea turtles in the western and central Pacific. He said a substantial information gap exists regarding the way human populations in the western and central Pacific interact with sea turtles. For instance, little is known about the principal economic and cultural factors driving egg and turtle harvests in the region, which is essential to develop programs to ameliorate this major impact on sea turtle populations.

Colin Limpus, of the Queensland Parks and Wildlife Department, expressed his disappointment over the information gap in the South Pacific where there are several discreet stocks.

"From French Polynesia through to New Caledonia you have a blank, and yet there are very significant populations for those communities," he said. He stressed the need to quantify sea turtle harvest by coastal communities. He also noted the unrealized potential of collecting important biological data—e.g., size, sex, breeding history, parasite/disease, turtle health and samples for stock identification—from sea turtles harvested for subsistence purposes.

Limpus also brought up the issue of global warming, which is expected to impact both nesting and foraging habitats in the future.

The workshop provided much new information and perspectives on the status of Pacific sea turtle populations. Northern and southern Pacific loggerhead populations appear to be in a precarious state, according to a presentation of Japan and Australia nesting data. Estimated annual nesting numbers have dropped precipitously over the last 10 years, to less than 2,000 loggerheads for the entire ocean. Mexico's leatherback nesting census in 2001 was the worst on record. Although green turtle populations are showing stable or increasing trends in some locations, the overall assessment indicates declining trends.



Colin Limpus, Queensland Parks and Wildlife Department, Australia.

Increased awareness and presentations from relatively new programs of Indonesia, Thailand, Vietnam, Papua New Guinea, Fiji, Vanuatu, Palau, Guam and America Samoa show promise towards future sea turtle recovery. These programs have defined future research goals and community education requirements and have identified primary threats to stocks, conservation needs and management requirements for their countries.

A major role of the workshop was to encourage and strengthen communication networks between stakeholders for future management collaboration. Researchers agreed to work towards the development of a meta-database for tag information. Resource managers and policy makers will work towards better delineation of stock boundaries and breeding, foraging and migratory ranges. Coastal communities need to be provided with information on sea turtle life history and the impacts of harvesting eggs or killing adult turtles. Increased capacity building was encouraged among all stakeholders through future technical training, workshops and distribution of educational materials.

(from left) Rene Marquez, national sea turtle coordinator, and Laura Sarti, leatherback turtle biologist and project coordinator, both with the Instituto Nacional de la Pesca, Mexico.

FDA HAACP, Mercury Actions Will Impact Local Fisheries

Under new FDA requirements, fishermen will have to provide onshore receivers with records that document onboard fish handling, such as when and how fish were iced. —C. Severance photo

Part of the anti-terrorism outfall of 9/11 is the inclusion of food as a national security issue. Consequently, Food and Drug Administration (FDA) efforts to ensure the safety of the US seafood supply are expected to intensify. Two areas the agency is pursuing are of particular concern to the fisheries under the jurisdiction of the Western Pacific Fishery Management Council.

The first area is the hazard analysis critical control point (HACCP) regulations for the seafood industry. HACCP systems are science-based and aimed at preventing food safety problems that are identified through hazard analysis. HACCP regulations became effective in December 1997, and, since that time, Hawaii's seafood processors, wholesalers and auctions have been working hard to implement them.

One of the most important food safety problems facing the pelagic fisheries under the Council's jurisdiction is the control of histamine, also known as scombroid fish poisoning. Histamine accumulates in certain types of fish (mahimahi, tuna, marlin, etc.) under conditions of mishandling that result in slow or delayed cooling. Histamine forms as a result of specific bacterial growth and enzymatic activity. Proper temperature control is the key to prevention, and it must begin at the time the fish are caught at sea. Fishermen are responsible for the critical first step in the handling chain.

Fishermen will soon be required to provide additional records of fishing activity and fish handling at sea to satisfy the FDA that the fish were handled in a manner that prevents histamine accumulation. New requirements will include documenting when the fish were caught and when and how they were iced during the fishing trip. When the fish are delivered, the first receiver onshore will be required to determine the internal fish temperature, check for signs of decomposition and collect records from the fishermen documenting onboard fish handling.

Research is planned to improve the scientific understanding of the risk of histamine associated with the fishing and fish handling practices that typify Hawaii's pelagic fisheries. This effort is needed to provide additional support of key critical limits of time and temperature control that prevent histamine accumulation. The NOAA-funded study is expected to begin in May 2002. Cooperation with the project is vital to help demonstrate that Hawaii's important fresh pelagic fisheries products are not only of high quality but also safe.

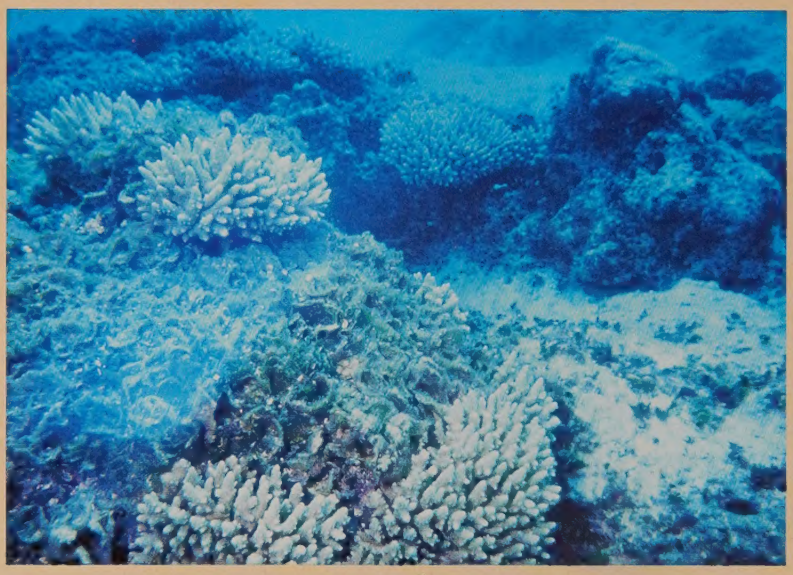
The second area of FDA activity that will impact local fisheries is the issue of acceptable levels of methylmercury in seafood. The FDA's current rate is 1.00 ppm. However, the Environmental Protection Agency (EPA) has been arguing for a much lower level. The FDA is now reevaluating and developing a plan of action on how to proceed with this issue.

The FDA and EPA disagreement is based on two important factors. First is the definition of the population to be protected. The FDA is considering the entire consuming public, while the EPA is focusing on pregnant women and infants. Second is the applicability of recent risk assessment studies. The FDA backs a study conducted in the Seychelles Islands, which did not find adverse health effects following considerable intake of methylmercury from eating large amounts of pelagic fish. The EPA backs the findings of a study in the Faroe Islands, which found negative health effects in children who eat pilot whale meat containing polychlorinated biphenyls (PCBs) and methylmercury.

In March of last year, the FDA released an advisory to pregnant women and women of childbearing age who may become pregnant, warning them that eating large amounts of big, predatory fish (such as shark, swordfish, tilefish and king mackerel) can harm an unborn child's nervous system or affect the child's learning abilities. In March of this year, the FDA announced that its Food Advisory Committee would soon convene to review issues surrounding methymercury in commercial seafood, including a reexamination of its health advisory to women.

The actions of the FDA on this issue could have a significant impact on fisheries under the Council's jurisdiction, which is dominated by catches of large, pelagic fish. While tuna and marlin are not currently listed in the FDA consumer advisory, some have argued that they should be.

Comment Periods for NWHI, Coral FMP End Soon



The public has two opportunities to comment on the future use of offshore waters from 3 to 50 nautical miles surrounding the Northwestern Hawaiian Islands (NWHI), but the time is short. This area—known today as the NWHI Coral Reef Ecosystem Reserve and intended to become a National Marine Sanctuary (NMS)—is essentially the same as the Protected Species Zone established by the Western Pacific Fishery Management Council in 1991. Under Council management measures, longlining is prohibited in this area and other fisheries are subject to limited entry, harvest caps and protected species provisions.

The National Marine Sanctuary Program will accept comments through May 17 to help define the range of issues to be addressed in the draft environmental impact statement and draft management plan for the proposed NWHI NMS. Persons are asked to mail or fax written comments to the NWHI Coral Reef Ecosystem Reserve, 6700 Kalanianaole Highway, #215, Honolulou, HI 96825; fax (808) 397-2662. Comments may also be submitted via email at nwhi@noaa.gov or at http://hawaiireef.noaa.gov.

The NWHI Coral Reef Ecosystem Reserve is also accepting public comments through May 17 on a draft Reserve Operations Plan (ROP). The ROP outlines the management measures for the Reserve during the NWHI NMS designation process and will be used as a foundation for the NWHI NMS draft management plan. For a copy of the ROP, contact the Reserve using the information provided above. Comments may be sent to the Reserve via mail, email or fax using the information provided above.

The public is also invited to comment on the Coral Reef Ecosystem Fishery Management Plan (FMP) for the Western Pacific Region. It establishes a permitting process, gear restrictions and other measures for the taking of organisms associated with coral reefs in waters beyond 3 miles from shore surrounding American Samoa, Guam, the Northern Mariana Islands, Hawaii and the US Pacific remote island areas (e.g., Midway, Johnston, Wake, etc.). About 85 percent of the US coral reef habitat in federal waters of the Western Pacific Region is located in the NWHI. NOAA Fisheries has indicated that it will not implement any provision in the FMP that is inconsistent or less restrictive than the provisions contained in the executive orders issued by the Clinton administration, which severely restrict existing fisheries and forbids the development of new or reintroduction of former fisheries in the Reserve. Comments should be submitted by May 17 to Charles Karnella, Administrator, Pacific Islands Area Office, NOAA Fisheries, 1161 Kapiolani Blvd., Suite 110, Honolulu, HI 96815. Copies of the FMP are available on CD-ROM, as a hard copy or on the Western Pacific Fishery Management Council's website at www.wpcouncil.org.

Council to Host International Forum on Bycatch

The Western Pacific Fishery Management Council will host the 2nd International Fishers Forum (IFF2) in Honolulu, Nov. 19-22, 2002. IFF2 will build on the efforts of IFF1, which was held two years ago in New Zealand and focused on methods to solve the incidental catch of seabirds by longline gear. IFF2 will continue this discussion and additionally explore methods for reducing the incidental capture of sea turtles by longline fisheries.

"Most fishery management in our region is driven by bycatch issues, especially for pelagic fisheries," notes the Council's Senior Scientist Paul Dalzell. "For the longline fishery, it is the biggest issue."

As an example, the $13 million Hawaii longline fishery for swordfish was shut down because of sea turtle bycatch. Now National Marine Fisheries Service (NMFS) is testing swordfish fishing gear that may reduce the incidental take of turtles. The gear is entirely—from the monofilament mainline and branch lines to the snaps and crimps—dark blue grey, or a color called "gun metal," noted Christofer Boggs, chief of fish biology at NMFS Honolulu Lab. Even the bait is dyed blue. Instead of chemical light sticks, the gear uses electronic light emitting diode (LED) light sticks that emit a pure yellow light—the color that least attracts sea turtles, according to research. Boggs points out that, at this point, the main purpose of the test is not to test turtle bycatch reduction but to see if the gear can catch swordfish. The final sets for the experiment should be completed this April.

Information exchange on recent developments, like this, that could minimize the incidental capture of protected species will form the backbone of the Forum.

The agenda for IFF2 includes overview plenary sessions on the first day, followed by two days of break out sessions on 1) international agreements and national approaches; 2) mitigation and research; 3) modeling; 4) obstacles, barriers and lessons learned; 5) education and communication; and 6) fishermen incentives. Breakout discussions and findings will be reviewed during plenary sessions on the final day. Fiji Ambassador Satya Nandan, the keynote speaker of IFF1, will return to open and close IFF2.

For more information on the Forum, please call Kathy Cousins, the Council's protected species coordinator, at +1 808 522-6044 or visit the Council's website at www.wpcouncil.org.

Court Favors Fishermen's Right to Be Involved in ESA Consultations

Magistrate John M. Facciola, US District Court for the District of Columbia, on April 25, 2002, issued a report and recommendation in favor of the Hawaii Longline Association (HLA) and against the National Marine Fisheries Service (NMFS) and the Secretary of Commerce in a lawsuit resulting from the March 2001 biological opinion (BiOp) that closed the Hawaii longline swordfish fishery and significantly restricted the Hawaii longline tuna fishery.

HLA originally petitioned to remand the BiOp. When NMFS announced that it was going to prepare a new BiOp, HLA changed its motion to enjoin NMFS from excluding it from the forthcoming consultations on the new BiOp and from review of the draft BiOp, scheduled to be published in May 2002. NMFS argued that HLA was not entitled to involvement in the BiOp consultation as it did not have "applicant" status under the Endangered Species Act (ESA) and review of the draft BiOp by an applicant was not a right. NMFS contended that it alone had applicant status. It said management of the fishery was the only action under consideration and NMFS has the authority to make final management decisions. In other words, NMFS need only consult with itself, NMFS argued.

Magistrate Facciola, referring to the Final ESA Section 7 Consultation Handbook that was jointly published by NMFS and the US Fish and Wildlife Service in 1998 and to other documents, stated: "The clear intent of the Section 7 regulations is to allow input from those who are directly affected by ESA consultations." He determined that the action under consideration includes both the management and operation of the fishery. Therefore, HLA should be deemed an applicant for the purposes of Section 7 consultations. The Western Pacific Fishery Management Council, which prepares the FMP that NMFS approves, may very well qualify as an applicant and/or federal agency, he added. However, it was beyond his authority to issue a recommendation on the Council, as it was not a party to the court action. The magistrate recommended that HLA be presented a copy of the draft BiOP and be allowed 14 days to provide comments. He said that he was confident that "allowing applicants a more defined role will result in more informed final BiOps."

COUNCIL CALENDAR

MAY

5-7 4th International Florida State University/Mote Symposium, Sarasota, Fla.

6-10 Forum Fisheries 51st Annual Committee Meeting, Federated States of Micronesia

14-16 80th Scientific and Statistical Committee meeting, Kauai, Hawaii

20-24 53rd Tuna Conference, Lake Arrowhead, Calif.

20-24 Internal Whaling Commission meeting, Shimonoseki, Japan

22-24 3rd International Conference on Recreational Fishing, Darwin, Australia

26-31 Council Chairs and Executive Directors meeting, Sitka, Alaska

JUNE

5 NOAA Fish Fry, Washington, DC

10-14 Ecological Impacts of Pelagic Longline Fisheries, Victoria, BC, Canada

24-28 113th Council Meeting, American Samoa

TBA Islands VII Conference, Charlottetown, Prince Edward, Canada

JULY

18-26 15th Sub-Committee on Tuna and Billfish meeting, Honolulu, HI

22-25 Pacific Congress (PACON), Chiba, Japan

AUGUST

18-22 American Fisheries Society meeting, Baltimore, Md.

19-22 IIFET 2002 (Fisheries in the Global Economy), Wellington, NZ

Sauteed Marlin with Malaysian Curry Sauce and Mango Chutney

This recipe by Executive Chef Ray Dasalla of The Hau Tree Lanai Restaurant won first prize in the entrée division of the 1991 Hawaii Seafood Festival, co-sponsored by the Hawaii Department of Business, Economic Development and Tourism's Ocean Resources Branch.

12 oz striped or barred marlin fillet
5-6 green onions (stems only)
1 tsp Spike seasoning
1 tsp lemon grass, freshly minced
½ cup fresh coconut, shredded
2 oz clarified butter

Run chopstick through the fillet, and lard with green onion stems. Cut into 2-oz fillets, season with Spike and marinate for 2 hours. Sprinkle lemon grass and fresh coconut on fillets. Heat butter in sauté pan, and sauté fillets till slightly undercooked.

Malaysian Curry Sauce (advance preparation)

2 oz clarified butter
½ cup onion, finely diced
1 tbsp ginger, minced
3 cloves garlic, sliced
6 basil leaves
2 tsp paprika
1 tbsp Malaysian curry powder
3 plum tomatoes, peeled, seeded, finely diced
lemon juice to taste
½ cup fish stock
1½ cup coconut milk
4 tsp sugar
½ cup plain yogurt
½ cup sour cream
salt to taste

Sauté onions until slightly brown. Add garlic, basil leaves, paprika and curry powder. Sauté 2–3 minutes. Add tomatoes, and cook for another minute. Add all the remaining ingredients; simmer 5–10 minutes. Transfer sauce into blender, and blend till smooth.

Fresh Mango Chutney (advance preparation)

10 oz Hayden mango, diced
½ cup mint, chopped
½ cup ginger, chopped
chilies, minced, to taste
salt to taste
sugar to taste

Mix all ingredients together; marinate for 2 hours.

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Telephone: (808) 522-8220; Fax: (808) 522-8226; http://www.wpcouncil.org

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